

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A barrier array for use in a flat panel display, comprising:

a shadow mask including a plurality of openings defined therethrough according to a predetermined pattern, the predetermined pattern being in accordance with a pixel pattern of a flat panel display, the shadow mask having an upper surface and a lower surface; and

an insulative layer including a first portion formed on the upper surface ~~outside surfaces~~ of the shadow mask and a plurality of second portions extending from the upper surface to the lower surface through the respective openings ~~inside surfaces of the shadow mask surrounding the openings~~.

Claim 2 (currently amended): The barrier array as described in claim 1, wherein the shadow mask is made from a material selected from the group consisting of: an iron-nickel alloy, low carbon steel, and another suitable metal alloy; and the material has a coefficient of thermal expansion matching that of a substrate of ~~[[a]]~~ the flat panel display.

Claim 3 (original): The barrier array as described in claim 1, wherein the insulative layer comprises alumina or magnesia.

Claim 4 (original): The barrier array as described in claim 3, wherein a thickness of the insulative layer is in the range from 10 to 500

micrometers.

Claim 5 (original): The barrier array as described in claim 3, wherein a thickness of the insulative layer is in the range from 75 to 200 micrometers.

Claim 6 (withdrawn): A method for making a barrier array for use in flat panel displays, comprising the following steps:

providing a metal plate;

forming a shadow mask from the metal panel by forming a plurality of openings through according to a predetermined pattern, the predetermined pattern being in accordance with a pixel pattern of a flat panel display; and

forming an insulative layer on the shadow mask.

Claim 7 (withdrawn): The method for making a barrier array as described in claim 6, wherein the method further comprises a step of providing a mask having a pattern according to the pixel pattern of the flat panel display.

Claim 8 (withdrawn): The method for making a barrier array as described in claim 6, wherein the metal plate is selected from the group: invar, low carbon steel or another suitable metal alloy, and the material has a coefficient of thermal expansion matching that of a substrate of a flat panel display.

Claim 9 (withdrawn): The method for making a barrier array as described in claim 6, wherein the insulative layer comprises alumina or

magnesia and has a thickness in the range from 10 to 500 micrometers.

Claim 10 (withdrawn): The method for making a barrier array as described in claim 6, wherein the insulative layer is formed on the shadow mask by spray coating.

Claim 11 (withdrawn): The method for making a barrier array as described in claim 6, wherein the insulative layer is formed on the shadow mask by electrophoretic deposition.

Claim 12 (withdrawn): The method for making a barrier array as described in claim 11, wherein an electrolyte employed by the electrophoretic deposition method comprises aluminum ions.

Claim 13 (withdrawn): The method for making a barrier array as described in claim 12, wherein the electrolyte preferably comprises methyl alcohol, magnesium sulfate, aluminum nitrate, alumina and deionized water.

Claim 14 (withdrawn): The method for making a barrier array as described in claim 11, wherein the shadow mask is used as an anode and aluminum is used as a cathode.

Claim 15 (withdrawn): The method for making a barrier array as described in claim 6, wherein, after the insulative layer is formed on the shadow mask, preferably the shadow mask with the insulative layer formed thereon is soaked in a solution for several minutes.

Claim 16 (withdrawn): The method for making a barrier array as described in claim 15, wherein the solution comprises ethyl cellulose,

butyl alcohol, and xylene.

Claim 17 (withdrawn): The method for making a barrier array as described in claim 15, wherein, after soaking, the shadow mask with the insulative layer formed thereon is cured.

Claim 18 (currently amended): A barrier array for use in a flat panel display, comprising:

a metal plate ~~defining~~ including a plurality of openings therethrough according to a pixel pattern of a flat panel display, the metal plate having an upper surface and a lower surface; and

an insulative layer including a first portion formed on the upper surface ~~outside surfaces~~ of the metal plate and a plurality of second portions extending from the upper surface to the lower surface through the respective openings ~~inside surfaces of the metal plate surrounding the openings~~.

Claim 19 (canceled)